Multi-Actor Adaptation Plan to cope with Forests under Increasing Risk of Extensive fires (MAP-FIRE)

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ABSTRACT – Wildfires, caused by the interaction of social and climate systems, are currently one of the major driver of reduction of Amazonian carbon stocks and biodiversity. This process is also an important threat to the well-being of the ~25 million Amazonian inhabitants, imposing great economic losses in the impacted areas. Most Earth System Models predict increasing occurrence and intensity of droughts in the Amazon which is strongly interlinked with wildfires. The fire-related socio-environmental disaster risks are particularly critical in the tri-national frontier of Madre de Dios (Peru), Acre (Brazil) and Pando (Bolivia), known as MAP, the focal region of this study. For achieving a sustainable future, we propose a conceptual framework, based on four strategic working packages (WP): WP1- to develop a comprehensive understanding of current and future fire probability as well as quantifying the fire impacts; WP2- to produce a diagnostic and identify challenges and bottlenecks of operational and community-based strategies of wildfire risk management in the MAP region; WP3-to contribute towards the increase of risk awareness and capacity building of intergenerational social groups; and WP4- to influence conservation strategies and policies, providing technical reports for governments, improving their terminology, methods of data sharing and streams of information. Our results of a pessimistic climate-land-use projection suggest an increase of more than 100% of the area with high fire probability. Moreover, we have estimated an economic loss of approximately US$ 16 million per year due to fire impacts. Operational strategies for mitigating fire occurrence differ in the three MAP countries: in Acre, governmental actions are aligned among many environmental secretariats, which not being so structured in the two other countries. Community-based strategies will be assessed on high schools' communities. The schools' selection was defined based on their proximity with high concentrated hot pixels areas. Currently the schools' directors are being contacted to be invited for being part of the study. We expect that during the next two years, this project will contribute to identifying bottom-up initiatives and creating participatory methodologies to strengthen the science-police-citizen interface in order to mitigate mega-fires in this region.

Keywords: Fire policy; mitigation strategies; fire impacts

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